HP StorageWorks

Emulex host bus adapters for 32-bit Windows systems release notes

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About this document

These release notes contain information about SCSIPORT and Storport miniport drivers and firmware, and other supplemental information for the DS-KGPSA-CB and FCA2101 PCI to Fibre Channel host bus adapters, FCA2355 dual channel PCI host bus adapter, FCA2404, FCA2404DC, FCA2408, A7388A PCI-X host bus adapters, and A7387A dual channel PCI host bus adapter for 32-bit Microsoft Windows systems.

This section describes the content reflected in this document, including:

- Release notes information, page 3
- Intended audience, page 3

Release notes information

These release notes contain the following major topics:

- Supported features and requirements, page 4
- Driver parameters supporting multiple array types attached to the same HBAs, page 6
- Bug fixes for SCSIPORT miniport driver, page 9
- Restrictions, page 9
- HP Smart Component facts, page 11

Intended audience

This document is intended for customers who purchased DS-KGPSA-CB, FCA2101, FCA2355, FCA2404, FCA2404DC, FCA2408, A7388A and A7387A host bus adapters for 32-bit Windows systems (Emulex HBAs for 32-bit Windows systems).

Additional documentation, including white papers and best practices documents, are available on the HP web site http://www.hp.com.

Accessing future product updates

HP strongly recommends that customers sign up online using the Subscriber's choice web site at http://www.hp.com/go/e-updates.

- Subscribing to this service provides you with e-mail updates on the latest product enhancements, newest versions of drivers, and firmware documentation updates as well as instant access to numerous other product resources.
- After signing up, you can quickly locate your products by selecting **Business support** and then **Storage** under Product Category.

Supported features and requirements

Table 1 lists the HBAs' features and requirements.

Table 1 Supported features and requirements

Supported feature	Requirements
Operating systems	Windows Server 2003 32-bit Windows 2000 SP4
Firmware	DS-KGPSA-CB, FCA2101, FCA2355: 3.92a2 A7388A, A7387A, FCA2404, FCA2404DC, FCA2408: 1.90a4
Boot BIOS (x86)	1.70a1
Servers	HP server platforms that meet the voltage and minimum PCI slot requirements listed in Table 2. For detailed server information, refer to http://h18004.www1.hp.com/products/servers/platforms/storage.html.
Fibre Channel switches	For the latest supported switches, refer to the *HP StorageWorks SAN design reference guide* http://h18006.www1.hp.com/products/storageworks/san/documentation.html.
Microsoft hotfix	Microsoft QFE—883646 contains updates for Microsoft's `storport.sys` file. To obtain the QFE, go to the following Microsoft web site http://www.microsoft.com/downloads/details.aspx?FamilyID=b69906a8-fe5b-4350-976b-864e2c40b01c&displaylang=en.
Drivers	
SCSIPORT miniport: 5-5.10a10	Windows 2000, SP4 and Windows Server 2003, 32-bit Note that the 5-5.10a10 driver is not a mandatory upgrade. This driver release addresses the issue described in "Storport miniport installation restrictions" on page 9.
SCSIPORT miniport: 5-5.10a9	Windows 2000 SP4 and Windows Server 2003 32-bit
SCSIPORT miniport: 5-4.82a16	HSG80 systems on Windows 2000 SP4 and Windows Server 2003 32-bit
Storport miniport: 5-1.02a5	Windows Server 2003 32-bit
Utilities - for use with SCSIPORT miniport drivers 5-5.10a10, 5-5.10a9, and Storport miniport driver 5-1.02a5	HBAnywhere version 2.0a21 LPUTILNT version 1.70a21

Voltage and PCI slot requirements

Refer to your server PCI slot specifications to determine whether your server and the HBA are compatible.

Table 2 Voltage and PCI slot requirements

HBA part number	HBA PCI signaling voltage	PCI slot type
A7388A	3.3 volt, 5 volt	32- or 64-bit 33/66 MHz PCI or 66/100/133 MHz PCI-X universal connector
A7387A	3.3 volt, 5 volt	32- or 64-bit 33/66 MHz PCI or 66/100/133 MHz PCI-X universal connector
FCA2404 305573-B21	3.3 volt, 5 volt	32- or 64-bit 33/66 MHz PCI or 66/100/133 MHz PCI-X universal slot
FCA2404DC 323264-B21	3.3 volt	32- or 64-bit 33/66 MHz PCI or 66/100/133 MHz PCI-X universal or 3.3 volt slot
FCA2408 343073-B21	3.3 volt, 5 volt	32- or 64-bit 33/66 MHz PCI or 66/100/133 MHz PCI-X universal connector
FCA2355 308540-B21	3.3 volt, 5 volt tolerant	Universal PCI connector
FCA2101 245299-B21	3.3 volt, 5 volt tolerant	Universal PCI connector
DS-KGPSA-CB 176479-B21	3.3 volt, 5 volt tolerant	Universal PCI connector

Driver parameters supporting multiple array types attached to the same HBAs

With the new HP common set of SCSIPORT miniport driver parameters that provide basic functionality, a Windows host can now access EVA, MSA, and XP storage arrays simultaneously. Table 3 lists the supported parameters for configurations in which a Windows host simultaneously accesses different storage array types.

The Storport miniport driver's registry entry only includes the NodeTimeOut, LinkTimeOut, and QueueTarget as described in Table 3. All other parameters values use the default Emulex value. For more information, refer to the Smart Component kit documentation.

> **NOTE:** An asterisk (*) indicates the HP Storport miniport driver parameters. Some of the parameters in Table 3 may not be defined for Storport miniport drivers, or may have a different name.

Table 3 Miniport driver parameters

Parameter	HP default multipath setting
QueueDepth	32
ResetTPRLO	2
NodeTimeOut*	10
LinkTimeOut*	40
HLinkTimeOut	5
NumberOfRequests	150
MaximumSGList	33
Interrupt Coalescing use the following 3 parameters: CrfIntrpt CrfMSCnt CrfRspCnt	Enabled 1 1 8
QueueTarget*	1
EmulexOption	0xBA00
DiscMethod	1
Hot Plug I/O TimeOut	30
Topology	2
EnableDPC	1

Table 3 Miniport driver parameters (continued)

Parameter	HP default multipath setting
ElsRetryCount	6
SimulateDevice	1
ErrRetryMax	0

Note the following about using the miniport driver parameters described in Table 3:

- More parameters are available but remain unchanged from the Emulex defaults. Refer to one of the following Emulex files for information about parameter definitions:
  - For SCSIPORT, refer to `readme.txt`.
  - For Storport, refer to `Storport driver parameters.doc`.

  To obtain the files containing this information, run the driver HP Smart Component kit and click **extract**.

- Table 3 does not describe Single path and Transparent failover configurations.
- Parameters listed in Table 3 may not show up in the Registry if the parameters' value is a driver default.

  The following example shows the HP default for the Emulex SCSIPORT miniport driver string:

  ```
  Enabledpc=1;NodeTimeout=10;LinkTimeOut=40;HLinkTimeOut=5;ElsRetryCount=6;Si
  mulateDevice=1;ResetTPRLO=2;EmulexOption=0xBA00;ErrRetryMax=0;CrfIntrpt=1;C
  rfMsCnt=1;CrfRspCnt=8;QueueTarget=1;
  ```

  The following example shows the HP default for the Emulex Storport miniport driver string:

  ```
  NodeTimeOut=10;LnkTimeOut=40;QueueTarget=1;
  ```

Installing the Windows device drivers using the HP Smart Component kit

This section describes the instructions for installing the Windows SCSIPORT miniport and Storport miniport drivers. To install the latest SCSIPORT or Storport driver, you must use the HP Smart Component kit, available from the HP web site http://h18006.www1.hp.com/storage/saninfrastructure.html.

Note the following

- Prior to installing or updating drivers, refer to "Restrictions" on page 9 for driver installation restrictions.
- HP does not support driver updates using Device Manager. Using Device Manager can cause registry parameter deletions and erratic behavior.

Download and install HP Smart Component kit as follows:

1. Access the HP StorageWorks SAN infrastructure page http://h18006.www1.hp.com/storage/saninfrastructure.html.
2. Select the HBA from the **Fibre Channel Host Bus Adapters** list.
3. Click **Software and drivers** from the HBA page.
4. Select **download drivers and software**.
5. Select a windows operating system.
6. In the **Driver Storage Controllers - FC HBA** section, click **obtain software** in the row for either the **SCSIport driver component** or **Storport driver component for KGPSA-CB, FCA2101,FCA2355, FCA2404, FCA2404C, FCA2408, A7387A, and A7388A HBAs**.
7. Click **Accept** in the license page.
8. Open or save the installation program:
   - Click Open to run the driver software installation immediately.
   - Click Save to save the Smart Component executable to your system and run the installation at a later time.
9. Click **Install** to install the driver software.
10. Click **Reboot** to complete the installation.

Bug fixes for SCSIPORT miniport driver

In some SAN topologies, intermittent or repeated path faults can result in loss of LUN connectivity. If you experience this incident, use the 5-5.10a10 driver to correct it.

Restrictions

This section describes HBA restrictions.

Storport miniport installation restrictions

When upgrading to the Storport miniport driver, be aware of the following:

- The Storport miniport driver is only supported on Windows 2003 and later.
- Before installing the Storport miniport driver, it is mandatory to install the Microsoft QFE – 883646 to update the `storport.sys` driver. Obtain the QFE on the following Microsoft web site http://www.microsoft.com/downloads/details.aspx?FamilyID=b69906a8-fe5b-4350-976b-864e2c40b01c&displaylang=en.
- You can mix SCSIPORT and Storport miniport drivers for HBAs from different vendors. However, all HBAs from a single vendor must operate exclusively with either all SCSIPORT miniport drivers or all Storport miniport drivers.
- You cannot upgrade directly from the SCSIport miniport driver 4-8.2a16 to the Storport miniport driver. You must first upgrade from the 5-4.82a16 driver to either the 5-5.10a9 or 5-5.10a10 driver.
- If you are running Secure Path for Windows, be sure to upgrade to Secure Path v4.0c SP1 for Windows. Storport is not supported with earlier versions of Secure Path.

HBAnyware and LPUTILNT restrictions

About these utilities

Along with LPUTILNT, HBAnyware is now supported on 32-bit servers. Be aware that there are differences in how the two utilities perform some of the same functions. Please refer to the HBAnyware User Guide for detailed information.

For example, when modifying a registry parameter with LPUTILNT, you select an HBA and change the parameter that you selected. Changing a parameter results in a global change and affects all HBAs installed in the server. To affect a selected HBA, you must specify that the change is local (that is, you want the change to only affect the HBA you selected).

For HBAnyware, you must select the server icon to create global parameters. If you select an HBA icon, that parameter change is only valid for that device, and a parameter change creates a local device in the registry for that HBA. Only parameter changes to that HBA are added to the local device. All global parameters that were valid for that HBA are no longer valid.

Utility restrictions

- Before installing the HP Smart Component for the HBAnyware and LPUTILNT utilities, you must have one of the required minimum driver versions on all HBAs:
    - 5-5.10a9 SCSIPORT miniport
    - 5-1.02a5 Storport miniport
- To downgrade to the 5-4.82a16 SCSIPORT Miniport driver from either the 5-5.10a9 SCSI Miniport driver or the 5-1.02a5 Storport miniport driver, you must remove HBAnyware from the server before installing the 5-4.82a16 SCSI Miniport driver.

Miscellaneous restrictions

- The Emulex HBAs for 32-bit Windows systems do not support LUN mapping and LUN masking.
- If you are running Secure Path for Windows, upgrade to Secure Path V4.0C SP1 for Windows. Storport is not supported on earlier versions of Secure Path.
- There are numerous restrictions with server clustering in Windows 2000 and Windows Server 2003, 32-bit. For detailed information about managing clusters in this environment, HP strongly recommends that you refer to the following Microsoft web site for server clusters and storage best practices for Windows 2000 and Windows Server 2003 available: http://www.microsoft.com/technet/prodtechnol/windowsserver2003/technologies/clustering/storbp.mspx

HP Smart Component facts

- The HP Smart Component kit is compiled from multiple subcomponents and should not be viewed as individual components.
- Manually changing one subcomponent of the HP Smart Component kit after installation can lead to misleading information the next time you run a different version of the HP Smart Component kit.
- The version file of the HP Smart Component kit placed on your system only upgrades or downgrades if you run another version of the HP Smart Component kit. The version file does not change by upgrading or downgrading a HP Smart Component kit subcomponent such as a driver, application, or a configuration.
- The following messages might display in certain conditions:

Message	Occurs when:
The software is installed and up to date	You installed a HP Smart Component kit and then manually upgraded or downgraded the driver.
The software is installed but is not up to date	You installed a more recent HP Smart Component kit than the one currently installed.
The software is installed, but the installed version is newer than the version you are attempting to install.	You attempted to install an older HP Smart Component kit when a newer HP Smart Component kit is present.
The software is installed but is not up to date. A manually upgraded driver may get downgraded as a result of running the Smart Component kit.	If you install the HP Smart Component kit 1.0.0.0, which contains a subcomponent driver v3.0.0.0, and if you perform a manually update the driver from 3.0.0.0 to 4.0.0.0, the HP Smart Component still shows the original HP Smart Component kit 1.0.0.0 driver 3.0.0.0. Therefore, if you run a new HP Smart Component, (such as 2.0.0.0, which contains driver 3.5.0.0), the installation looks at the previous HP Smart Component version (1.0.0.0), and displays the message.